

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (currently amended) Process for the removal of contaminating sulfur compounds, more in particular thiophenic sulfur compounds, from hydrocarbon feedstocks, ~~preferably selected from benzene and hydrocarbon resins~~, said process comprising contacting the feedstock in the presence of hydrogen with a sulfided nickel adsorbent, of which adsorbent the rate constant for tetralin hydrogenation activity at 150°C is less than 0.01 l/s.g cat and wherein in said adsorbent part of the nickel is present in the metallic form,

wherein the nickel adsorbent comprises an oxide of a metal that forms stable sulfides under the conditions applied in the process for the removal of contaminating sulfur compounds from hydrocarbon feedstock.

2. (previously presented) Process according to claim 1, wherein at least 10 %, on an atomic basis, of the nickel is in the metallic form.

3. (previously presented) Process according to claim 1, wherein the nickel surface has an atomic S to Ni ratio of at least 0.5.

4. (previously presented) Process according to claim 1, wherein the nickel adsorbent has been obtained by treating a metallic nickel adsorbent, optionally on a support or containing a structural promoter, with sulfur or a sulfur compound or by coprecipitating the precursors for the nickel adsorbent and the sulfur compound.

5. (original) Process according to claim 4, wherein the said treatment encompasses precipitating S, a polysulfide or an S-compound on the nickel adsorbent, by coprecipitating S, a polysulfide or an S-compound with the nickel adsorbent precursors, or impregnating the nickel adsorbent with S, a polysulfide or an S-compound sulfur compound.

6. (original) Process according to claim 5, wherein the said S-compound is selected from the group of di-benzo-thiophene, 2-methyl thiophene, benzothiophene or dimethyl thiophene.

7. (previously presented) Process according to claim 1, wherein the hydrogen partial pressure is between 0.1 and 200 bar.

8. (previously presented) Process according to claim 1, wherein the hydrocarbon feedstock is selected from benzene and hydrocarbon resins.

9. (previously presented) Process according to claim 1, wherein the nickel adsorbent comprises nickel that is present on a support material.

10. (previously presented) Process according to claim 1, wherein the process is carried out in a fixed bed or slurry phase.

11. (canceled)

12. (previously presented) Process according to claim 1, wherein the hydrocarbon feedstock is subsequently subjected to a treatment with an oxide of a metal that forms stable sulfides in the process for the removal of contaminating sulfur compounds from hydrocarbon feedstocks.

13. (previously presented) Process according to claim 1, wherein the temperature is between 50 and 300 °C.

14-22. (canceled)

23. (new) Process according to claim 1, wherein the sulfided nickel adsorbent further comprises silica, and the sulfided nickel adsorbent comprises the nickel on the silica.

24. (new) Process according to claim 23, wherein the sulfided nickel adsorbent is a calcined, reduced coprecipitant comprising sulfided nickel and silica.

25. (new) Process for the removal of contaminating sulfur compounds, more in particular thiophenic sulfur compounds, from hydrocarbon feedstocks, the process comprising:

contacting the feedstock in the presence of hydrogen with a sulfided nickel adsorbent, of which adsorbent the rate constant for tetralin hydrogenation activity at 150°C is less than 0.01 l/s.g cat and wherein in said adsorbent part of the nickel is present in the metallic form, at least 10 %, on an atomic basis, of the nickel is in the metallic form, and the nickel surface has an atomic S to Ni ratio of at least 0.5; and

contacting the feedstock with an oxide of a metal that forms stable sulfides under the conditions applied in the process for the removal of contaminating sulfur compounds using the sulfided nickel adsorbent from the hydrocarbon feedstock.

26. (new) Process according to claim 25, wherein the nickel adsorbent has been obtained by treating a metallic nickel adsorbent, optionally on a support or containing a structural promoter, with sulfur or a sulfur compound or by coprecipitating the precursors for the nickel adsorbent and the sulfur compound.

27. (new) Process according to claim 26, wherein the said treatment encompasses precipitating S, a polysulfide or an S-compound on the nickel adsorbent, by coprecipitating S, a polysulfide or an S-compound with the nickel adsorbent precursors, or impregnating the nickel adsorbent with S, a polysulfide or an S-compound sulfur compound.

28. (new) Process according to claim 27, wherein the said S-compound is selected from the group of di-benzo-thiophene, 2-methyl thiophene, benzothiophene or dimethyl thiophene.

29. (new) Process according to claim 25, wherein the sulfided nickel adsorbent further comprises silica, and the sulfided nickel adsorbent comprises the nickel on the silica.

30. (new) Process according to claim 29, wherein the sulfided nickel adsorbent is a calcined, reduced coprecipitant comprising sulfided nickel and silica.

31. (new) Process according to claim 25, wherein the temperature is between 50 and 300 °C.

32. (new) Process according to claim 25, wherein the process is carried out in a fixed bed or slurry phase.